

THE SEVEN ENVIRONMENTAL DESIGN GUIDELINES AND THEIR IMPACT ON OUR NEW ECONOMY



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WHAT ON EARTH IS HAPPENING?



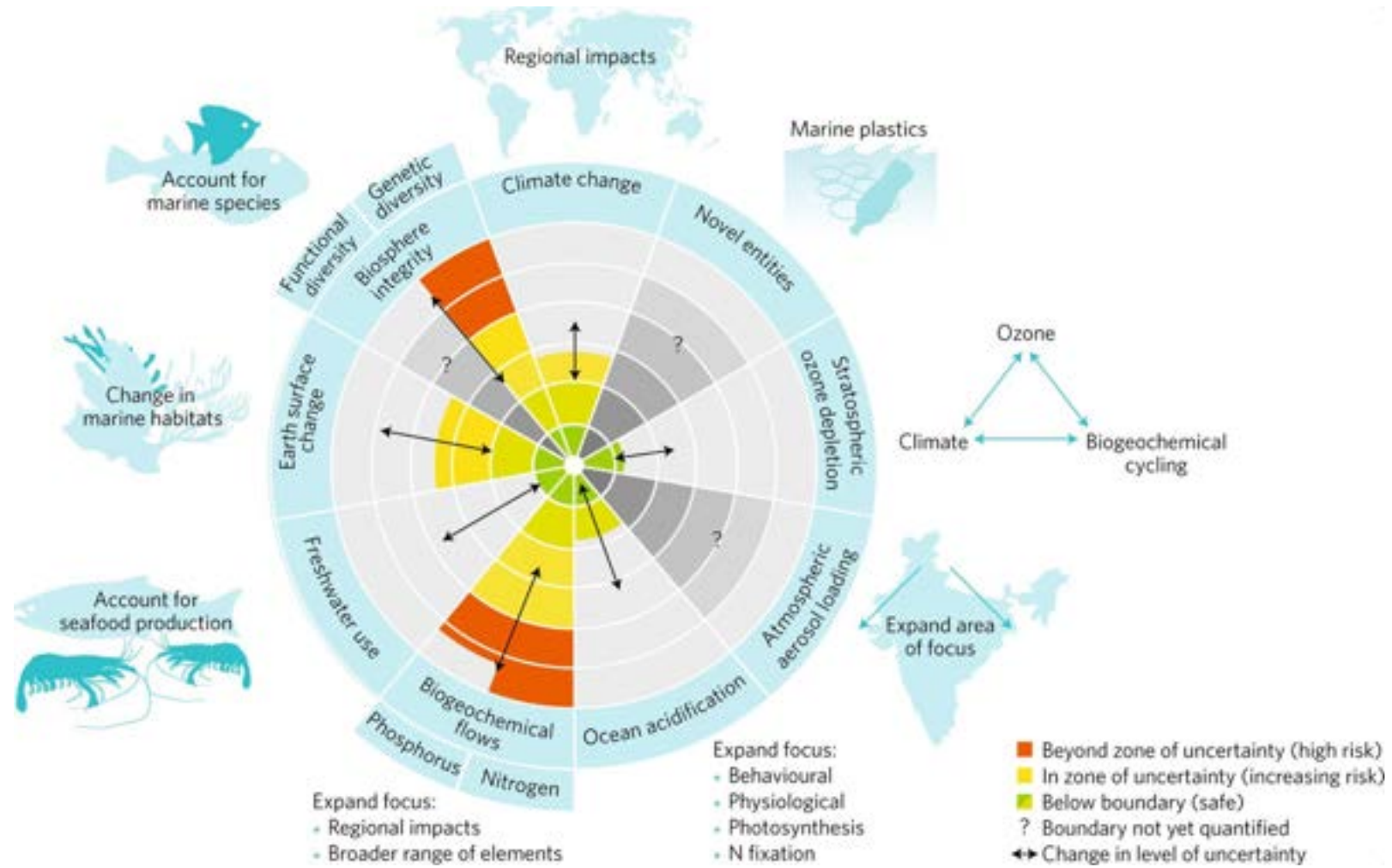
2019

2020

2021



THE PLANETARY BOUNDARIES MODEL



The Doughnut Economy Model.



U.N. SUSTAINABLE DEVELOPMENT GOALS



SIA ENVIRONMENTAL DESIGN GOALS





Park Royal on Pickering, Singapore

with WOHA Architects

Role: Architectural Designer

Key points: Green Mark Platinum 16-storey hotel and office development

2008-2010



ECO-ARK TAIPEI

Eco-Ark

with MINIWIZ

Role: Managing Director

Key points: Circular Economy construction



ECO-ARK TAIPEI

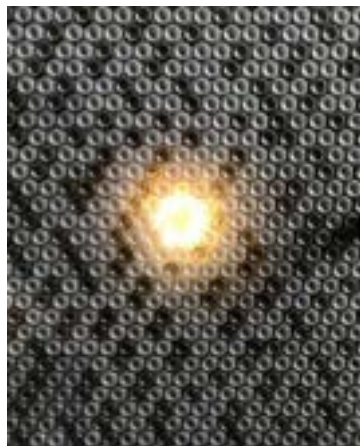
Materials Used



rPET



Drink Bottles



EDG 5 – Urban Harmony





KIMS Thonnakkal Hospital, India

with Surbana Jurong

Role: Principal Architect

Key points: Hospital and rehabilitation campus, targeting Green Mark Platinum for Healthcare (International)

2014-now



EDG 7 – Adaptability & Longevity



SPACE Asia Hub, Singapore
with WOHA Architects
Role: Architectural Designer

2010-2012



EDG 7 – Adaptability & Longevity



SPACE Asia Hub, Singapore
with WOHA Architects
Role: Architectural Designer

2010-2012



EDG 7 – Adaptability & Longevity



CT Hub, Singapore

with ONG&ONG

Role: Senior Designer (2008-2010), Architect in charge

Key points: Green Mark certified 12-storey industrial and retail mixed-use development

2010-2013



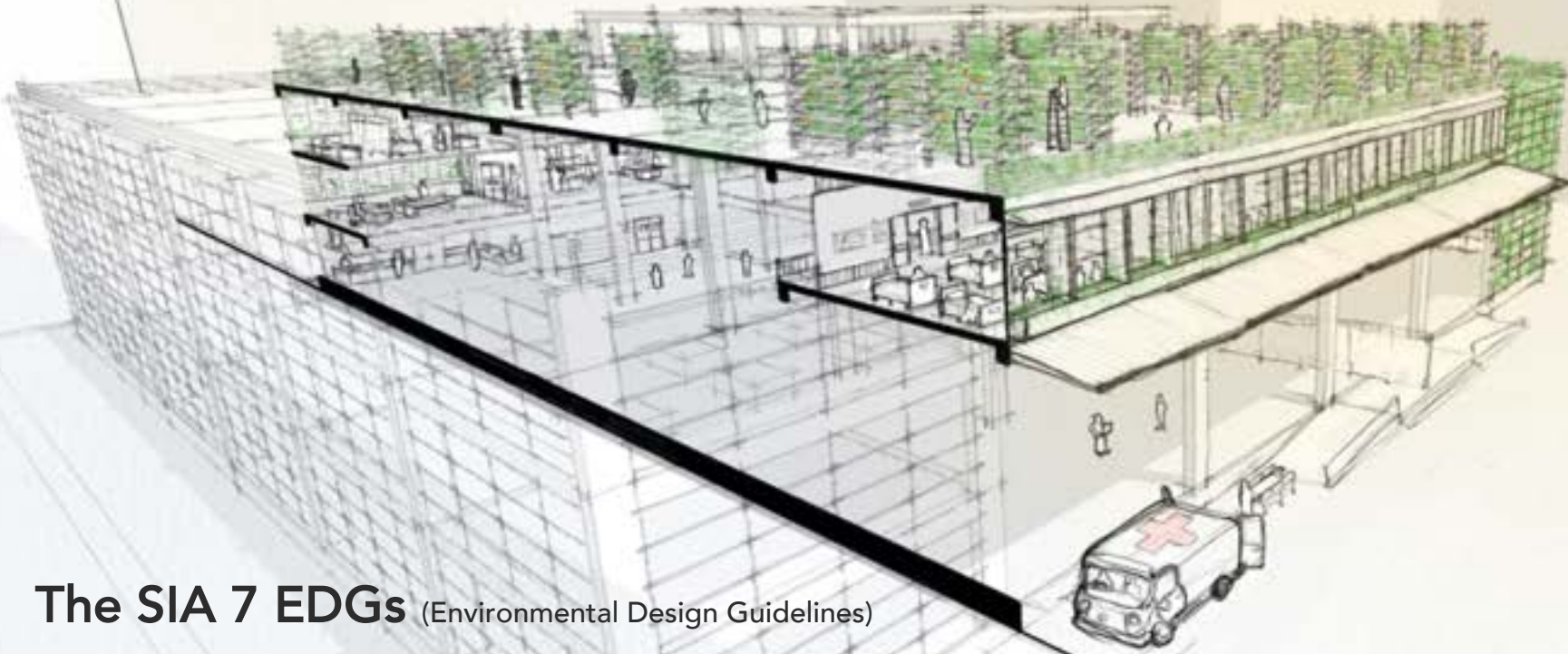
The New Modular Green Building

We will be forever playing a *losing* game of catch-up by adopting reactive strategies towards current and future epidemics or pandemics, as well as future disasters stemming from climate change, which are projected to dwarf the current COVID-19 crisis by magnitudes.

As conventional building methods are almost invariably harmful to the the environment, it is only logical that any new construction be planned for **environmental stewardship, longevity and maximum adaptability**.

It is pertinent to expand the notion of “green buildings” to *building green*, to create a bulwark of resilience and resistance against not only the accelerating climate related issues, but against the notion of Business As Usual, and the attitude that things will return to normal.

Guided by the **SIA 7 EDGs** (Environmental Design Guidelines), this proposal attempts to extend the idea of ‘Green and Sustainability’ beyond building science and into supporting the formation of sustainable usage of co-share spaces, that reinforces and complements the broader strategy of sheltering in place.

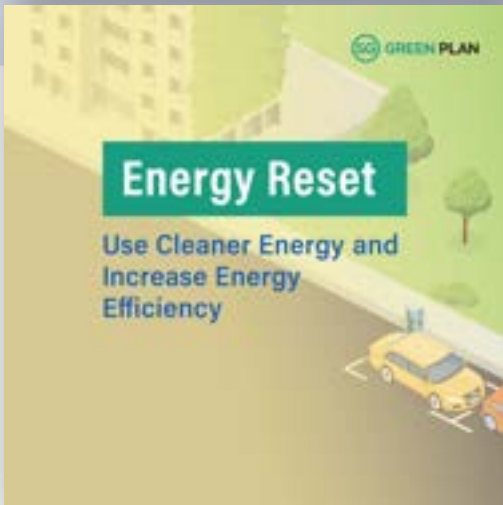


The SIA 7 EDGs (Environmental Design Guidelines)

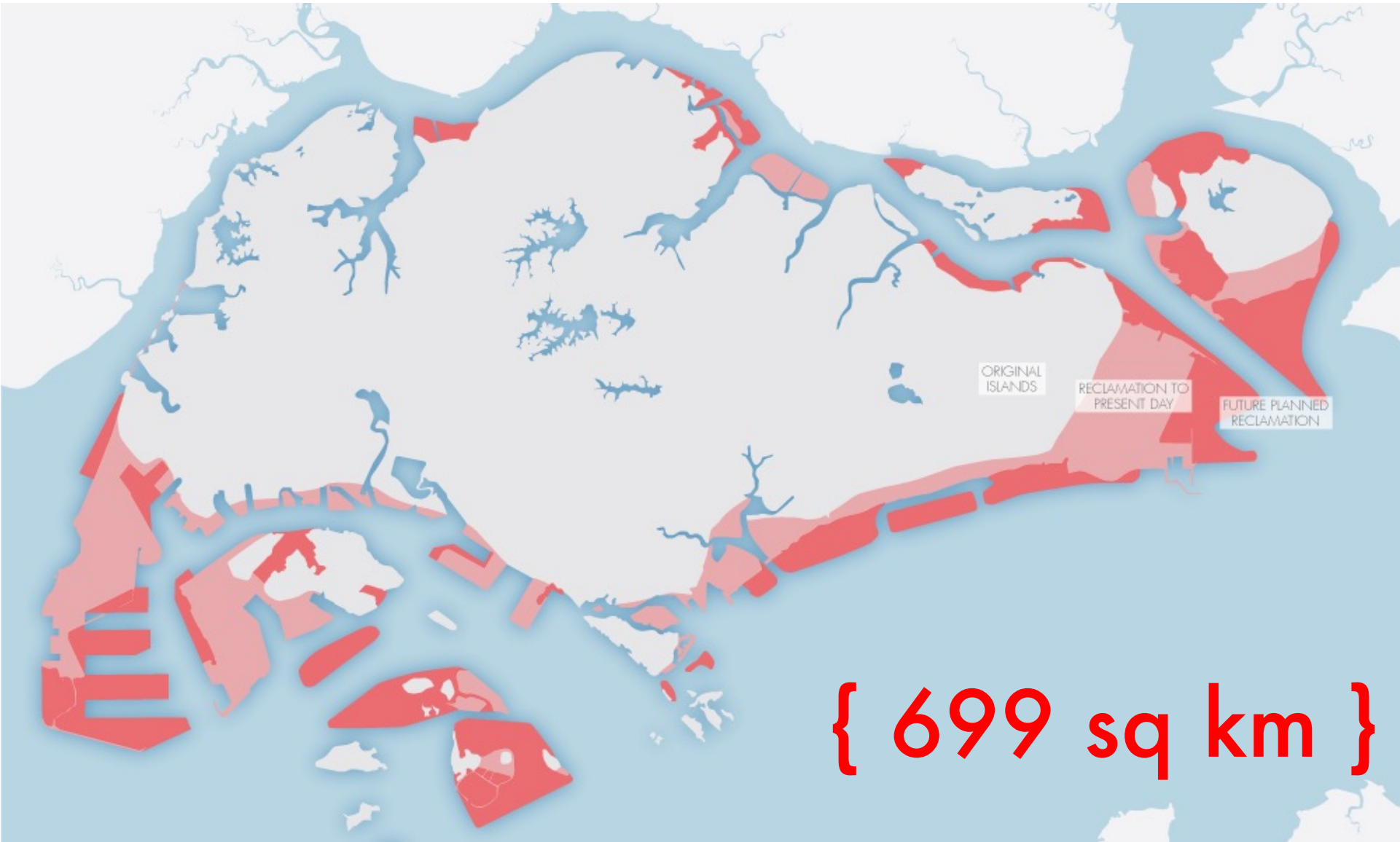


SUSTAINABLE
BUILDINGS DO HAVE
SIGNIFICANT AGENCY
IN THE FIGHT
AGAINST COVID-19,
OR A FUTURE GLOBAL
PANDEMIC.





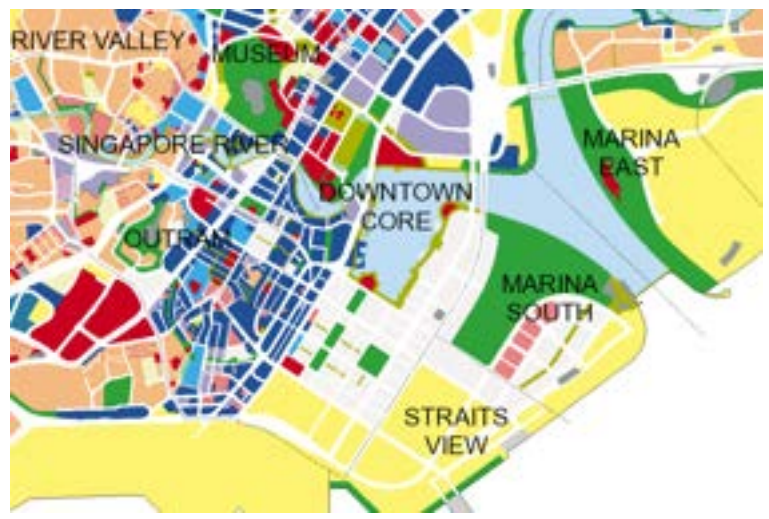
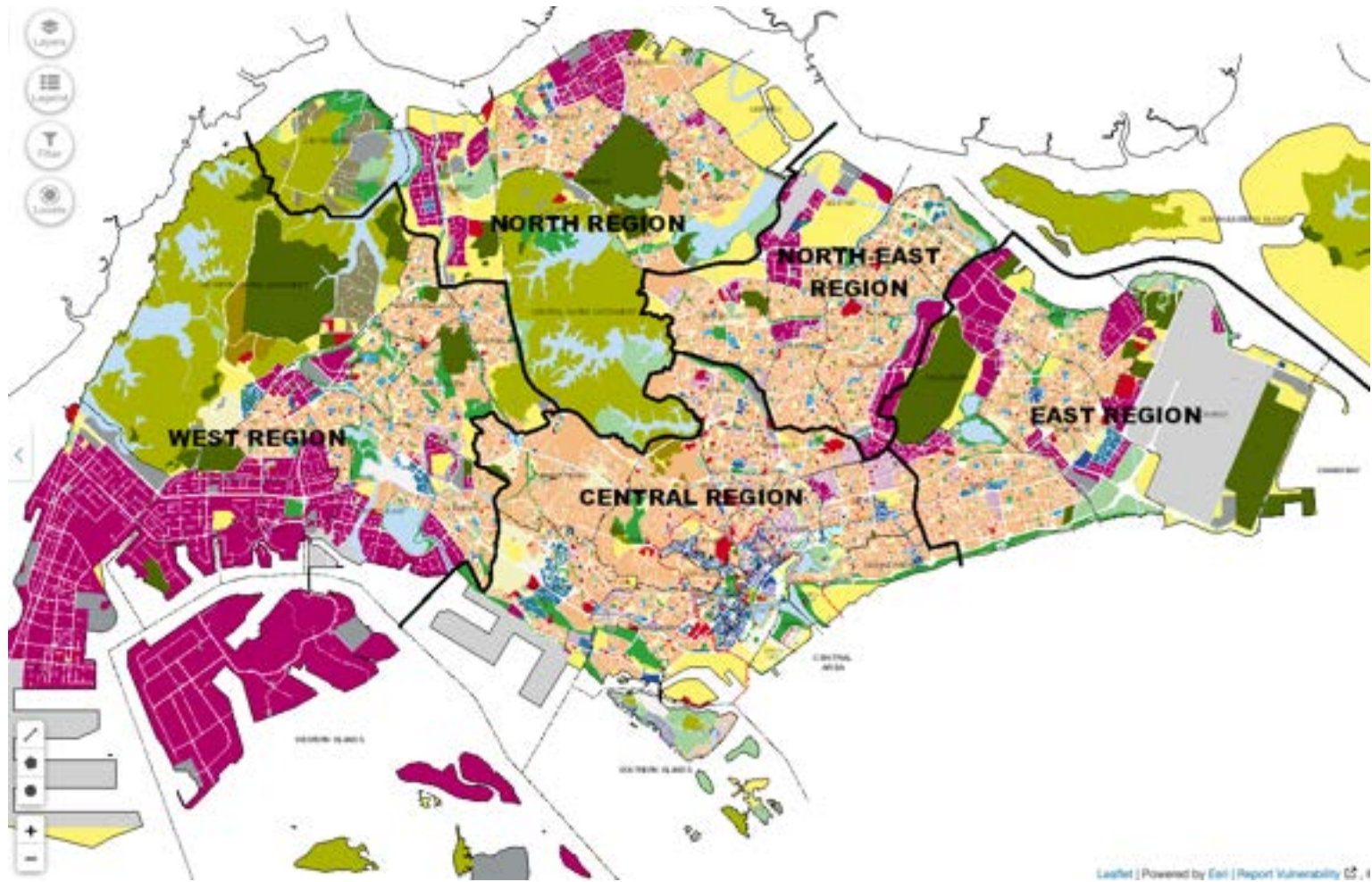
RESILIENT FUTURE



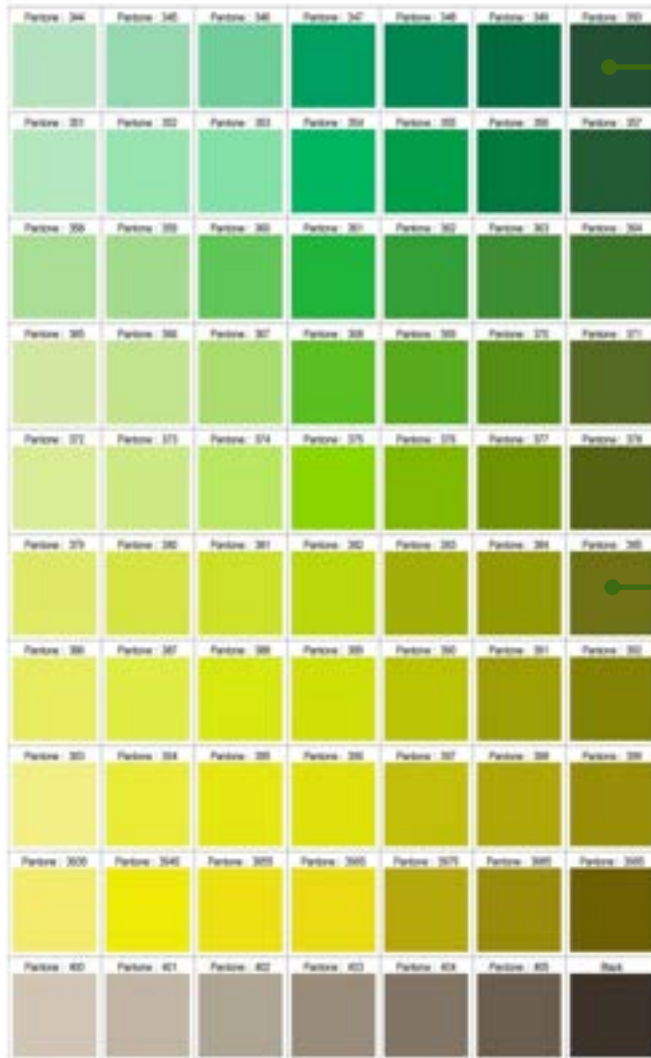
{ 699 sq km }

1000 Singapores could house the world's population

LAND USE & ZONING



SHADES OF GREEN?

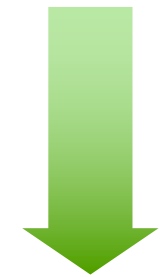


'HIGH-PRODUCTIVITY' GREEN



'MEDIUM PRODUCTIVITY' GREEN

GREEN PLOT RATIO



PRODUCTIVE
GREEN PLOT RATIO





RISING SEA LEVELS



2022 - NO RAIN

RISING SEA LEVELS



2022 – FLASH FLOODS

RISING SEA LEVELS



2100 – FLASH FLOODS

'SPONGE' LANDSCAPES

BEFORE



AFTER



BISHAN PARK, SINGAPORE
RAMBOLL STUDIO DREISEITL

'SPONGE' LANDSCAPES

DRY



WET



BISHAN PARK, SINGAPORE
RAMBOLL STUDIO DREISEITL

URBAN RESILIENCE



TOKYO FLOOD DISCHARGE CHANNEL



"HIGH INTENSITY" GREEN

BIOSWALES FOR STORMWATER RETENTION

TIERED GREEN & BLUE RECREATIONAL SPACES.
& RESILIENT!

TOWARDS A RESILIENT FUTURE

LIFE CYCLE ANALYSIS FOR BETTER BUILDING HEALTH



carbon footprint
CARBON CALCULATOR
Carbon Footprint Calculator For Individuals And Households

Language: [English \(United Kingdom\)](#)

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from to [Save](#)

Next, select the appropriate tab above to calculate the part of your lifestyle you are most interested in, e.g. your flights.
Or, visit each of the tabs above to calculate your full carbon footprint.

Following your calculation, you can offset / neutralise your emissions through one of our climate-friendly projects.

[Home >](#)

we'll use CO2 calculation links to your results

POTENTIAL APPLICATIONS FOR BLOCKCHAIN



Financial Sector

- Secure and faster settlement
- Reduce financing cost
- Bond issuance



Internet of Things

- Real-time data exchange by billions of sensor devices



Artificial Intelligence

- Data sharing & tracking
- Resolving "Black box" dilemma



Public Sector

- Data tracking & management platform
- Digital voting



Healthcare Sector

- Data management to store medical records
- Easy access to medical history



Logistic Sector

- Tracking on movement of goods along the supply chain



Retail Sector

- Energy tracking
- Eliminate fraud from internet sales



Energy Sector

- Energy trading platform for green energy and to prevent wastage



Agriculture Sector

- Source tracking
- Progress monitoring to avoid losses from harvesting



Education Sector

- Digital academic transcripts accessible by others to verify authenticity

SIA ENVIRONMENTAL DESIGN GOALS



TOWARDS A RESILIENT FUTURE



JUST AS WITH ANY NEW ECONOMY, WE NEED TO FIND
A SUSTAINABLE MODE TO THRIVE IN.



THANK YOU.